

Patent Claims

1. A stacker having
 - 1.1 a transfer device (4) for serially accommodating individual products (1) consecutively conveyed to it along their long axes,
 - 1.2 a serializing device for realigning individual products (1) coming from the transfer device (4) that are laid out flat next to one another such that their flat sides will be parallel and face one another, and
 - 1.3 a row of compartments (11) that may be conveyed along a direction orthogonal to the flat sides of products (1), where
 - 1.3.1 each such compartment (11) is configured for accommodating at least one product (1).
2. A stacker according to claim 1, wherein the transfer device (4) is configured such that products (1) are decelerated and brought to a standstill between the serializing device's entrance and exit.
3. A stacker according to claim 1 or claim 2, wherein the transfer device (4) is configured such that it gives products (1) a velocity component along the row of compartments' direction of travel.
4. A stacker according to any of the foregoing claims, wherein the transfer device (4) has receptacles (5), each of which accommodates a single product (1), where the receptacles (5) are transported at a constant rate that is less than the rate at which the products (1) are transported.
5. A stacker according to claim 4, wherein the receptacles change their shape before, or after, they receive an item (1).

6. A stacker according to any of claim 4 or claim 5, wherein each receptacle has a pair of sidewalls (6) and every sidewall (6) is common to adjacent receptacles (5).
7. A stacker according to claim 6, wherein the included angle between the pair of sidewalls (6) of a receptacle (5) is increased prior to a product (1) being accommodated in that receptacle (5) and/or the included angle between its pair of sidewalls (6) is decreased after a product (1) has been accommodated in the receptacle (5).
8. A stacker according to any of claims 4 – 7, wherein the receptacles (5), or their sidewalls (6), are attached to a circulating conveyor (7).
9. A stacker according to claim 8, wherein the circulating conveyor (7) has a bend for opening and closing the receptacle (5).
10. A stacker according to any of the foregoing claims, wherein the serializing device has a stop (15) for the leading edges (14) of products (1).
11. A stacker according to claim 10, wherein the stop (15) is configured such that it has a fixed location.
12. A stacker according to claim 10, wherein the stop (15) is moved in synchronism with the row of compartments.
13. A stacker according to claim 12, wherein the stop (15) is formed from a component of the compartments (11) of the row of compartments
14. A stacker according to any of the foregoing claims, wherein the compartments (11) are formed between pairs of compartment walls (12).

15. A stacker according to any of the foregoing claims, wherein the compartment (11) that is currently being loaded by the transfer device (4) is opened and subsequently closed.
16. A stacker according to claim 15, wherein the opening of the compartment (11) is effected by tilting the trailing compartment wall (12a).
17. A stacker according to any of the foregoing claims, wherein the compartment (11), or the compartment walls (12), are attached to a circulating conveyor (13).
18. A stacker according to claim 16 or claim 17, wherein the conveyor (13) is deflected in order to tilt the compartment walls (12a).
